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Analysis of
Outsourcing of
Construction Management
Services for the
Naval Facilities Engineering
Command

by
Edward S. McGinley, III

July 1997



Division of Construction
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**ANALYSIS OF OUTSOURCING
OF CONSTRUCTION MANAGEMENT SERVICES
FOR THE NAVAL FACILITIES ENGINEERING COMMAND**

AN INDEPENDENT RESEARCH STUDY
SUBMITTED TO THE FACULTY OF THE

SCHOOL OF CIVIL ENGINEERING
PURDUE UNIVERSITY

BY

EDWARD S. McGINLEY, III
//

IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE DEGREE OF
MASTER OF SCIENCE IN
CIVIL ENGINEERING

JULY 1997

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STATEMENT OF PURPOSE

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Through the past several years, the Navy has been reexamining the way that constructed facilities are delivered to internal customers. The Resident Officer In Charge of Construction (ROICC) offices, manned by Civil Service employees and Naval Officers, currently manages the construction contracts for the Naval Facilities Engineering Command (NAVFAC). The use of private sector construction management service by contract has not been examined in detail by the Navy as an alternative to this practice. This paper will examine whether outsourcing of traditional ROICC office duties to civilian contractors is feasible and what benefits and risks are found by doing so. Different contracting methods and approaches to implementing outsourcing of construction management will also be examined.

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LIST OF ACRONYMS

A/E - Architect and Engineering firms
B-O-T - Build, Operate and Transfer
BRAC - Base Realignment And Closure
CBC - Construction Battalion Center
CBD - Commerce Business Daily
CEC - Civil Engineer Corps
CM - Construction Management
CO - Commanding Officer
COAR - Contracting Officer's Authorized Representative
CPAF - Cost Plus Award Fee
DOD - Department of Defense
DOE - Department of Energy
EIC - Engineer In Charge
EFA - Engineering Field Activity
EFD - Engineering Field Division
ENR - Engineering News Record
FAR - Federal Acquisition Regulations
FFP - Firm Fixed Price
HQ - Headquarters
IDQ - Indefinite Quantity
IFB - Invitation For Bid
JOC - Job Order Contract
LMI - Logistics Management Institute
OMB - Office of Management and Budget
NAVFAC - Naval Facilities Engineering Command, also NAVFACENGCOM
NFESC - Naval Facilities Engineering Service Center
NRC - National Research Council
OICC - Officer In Charge of Construction
PWD - Public Works Department
RFI - Request For Information
RFP - Request For Proposal
ROICC - Resident Officer In Charge of Construction
SIOH - Supervision, Inspection, and Overhead
VA - Department of Veteran's Affairs
WIP - Work In Place

CHAPTER I

INTRODUCTION

Faced with shrinking budgets and decreases in personnel, government organizations have been forced to reexamine ways of doing business. Reengineering, outsourcing and privatization are all being examined as alternatives that could change organizations into more cost effective, smaller entities that are capable of delivering the high levels of service that customers demand. The Navy is no exception to this trend of reductions. Cutbacks have occurred in the Navy in all departments and still continue. Although the number of federal employees has decreased, workload in some cases has increased. An area of the Navy where this is evident is at the Naval Facilities Engineering Command (NAVFACENGCOM, hereafter referred to as NAVFAC).

NAVFAC acts as the construction management arm of the Navy in order to provide base facility support for the fleet. All base construction contract management is handled by NAVFAC. The Resident Officer in Charge of Construction (ROICC) offices oversee this construction and are staffed with NAVFAC employees and Civil Engineer Corps (CEC) officers. ROICC offices

must provide construction management services in spite of increasing workloads with fewer and fewer personnel.

This paper examines outsourcing of construction management for the ROICC offices as a potential solution to the problem of increased workloads and decreases in personnel. By outsourcing ROICC office functions, NAVFAC can gain the advantages offered by the outsourcing process and be able to meet current levels of excellence in spite of declining numbers of personnel. This paper addresses the process of outsourcing, benefits, and methods for instituting change at NAVFAC.

Chapter II addresses outsourcing in a general overview. Outsourcing is defined and examined in relation to private companies, current DOD practices and DOD requirements for outsourcing departmental functions.

Chapter III examines the current process for construction management in NAVFAC and at the ROICC offices. Advantages for outsourcing at the ROICC office level are presented, including the feasibility of outsourcing ROICC office functions to the private sector.

Chapter IV examines alternate approaches to contracting for construction management and explores implementation of private sector services for construction management.

Chapter V contains the conclusions drawn from the research done for this report and recommendations for future action on the ideas expressed here.

CHAPTER II

OUTSOURCING

Faced with today's decreasing budget constraints and high expectations from customers for innovative and cost-saving alternatives, many organizations have begun to look at different ways of doing business. One such alternative is outsourcing. Organizations first saw outsourcing as a way to cut costs. By going outside the organization to obtain services that were not a part of an organization's core competency, companies hoped to decrease their own structure and focus the organization more on core competencies. Outsourcing was seen as way of not only reducing the sheer size of an organization, but also allowing for greater flexibility in meeting customer demands and project goals. An organization could now go outside of itself to reap the benefits of outside expertise in several different areas.

Outsourcing Definition and Other Models

Outsourcing, for the purposes of this paper, is defined as a service, previously delivered by internal employees, provided by an outside organization or private company. Funding for outsourcing is provided by the internal

organization for whom the services are provided. This is to distinguish outsourcing from “privatization” which typically is funded from private financial institutions instead of internal government mechanisms. Privatization is also typically associated with Build, Operate, and Transfer (B-O-T) projects, which comprise an alternate method of delivery of a specific service. B-O-T projects are not discussed in this paper in terms of the supply of construction management services.

There are other alternate deliveries of services that are not considered in detail in this report. A common example of another alternate delivery is going outside of a government organization to a separate government organization to provide the same service [Finley 1989]. For example, if the Navy went to the Army Corps of Engineers to monitor construction of an office building instead of using NAVFAC, this could be classified as an alternate delivery of the same service that NAVFAC provides. While the issues of outsourcing are relatively the same, this report will examine the more extreme approach of outsourcing to private firms instead of other government agencies. This distinction between alternate delivery and outsourcing is important because outsourcing introduces competition in the market place and can result in stimulating better performance. However, it can also be argued that competition will exist between government entities increasing performance, but competition in between government

agencies could also be more of a detriment than a positive factor for interagency relations and cooperation.

Reasons for Outsourcing

The reasons for outsourcing vary from organization to organization. However, parallels can be drawn from outsourcing purposes in the private sector and in governmental sectors. When decisions to outsource in all cases are carefully planned and analyzed, confusion and inefficiencies can be minimized when outsourcing is instituted. Outsourcing typically is a tool for making large changes in an organization and can have disastrous results if not carefully planned and organized. However, if properly planned and organized, outsourcing can change an inefficient, inflexible organization into an adaptable model of efficiency.

According to the Outsourcing Institute, some of the reasons why private companies outsource include: to improve company focus and free resources for that focus; to allow for access to world-class capabilities; to share inherent risks; to reduce and control operating costs; and to provide resources if the resources are not available internally. Other reasons exist for outsourcing, but these are the most commonly cited in industry. These reasons can easily be applied to governmental services, including construction management.

Outsourcing can improve a company by allowing an organization to focus on broader issues while allowing the operational details to be assumed by an outside expert. "Outsourcing is an organizational-shaping management tool which can lead to a clearer more effective focus on meeting the customer's needs." ["Top Ten Reasons Companies Outsource" 1996] By outsourcing the day-to-day contract management of construction projects, for example, an organization can effectively turn its attention to the broader scope of the organization's mission and ever-changing customer requirements.

With downsizing, or 'right-sizing', organizations are faced more and more with reduced personnel and limited resources to accomplish their mission. By outsourcing functions, an organization can redirect its resources, i.e. personnel, from non-core activities toward activities which can have a greater return in serving the customers. This freeing of resources can create greater organizational flexibility allowing organizations to better adapt to changing demands.

By outsourcing, an organization can take advantage of emerging technologies, through the use of outside providers, without having to undergo institutional change and education. Typically, private firms are more willing to take risks with emerging technologies to reap the benefits. Government organizations, because of their sheer size, are hesitant to undertake unproven technologies because of cost of implementation and training over a wide area of

responsibility. For example, in construction management, private companies can offer world class expertise and access to the latest in management technologies. Typically the government would not be able to implement these emerging technologies by itself due to policy limitations and implementation costs.

By outsourcing a service, organizations can share the risks inherent in a function with an outside company. When an organization retains a non-core service, they also bare all the risk associated with providing and maintaining that service. If that service is outsourced to an outside company, then the outside company providing the service will assume a portion of the risk. The amount of risk assumed depends on the contracting methods and the service provided, but regardless the organization can now share the risks with an outside source.

Perhaps the single greatest reason for outsourcing in the private sector is to reduce or control operating costs. By outsourcing a service, organizations can hope to take advantage of another company's business initiatives and save costs in providing the service. Also, by contracting for the service, an organization can have a greater control over the costs of the service in general. By monitoring costs of an outside company, inefficiencies can be noted and corrected through contractual actions. However, in internal functions it can be difficult to identify inefficient or cost ineffective practices; and once identified, correction can take long periods of time.

Finally, the most obvious reason to outsource is because a company lacks the personnel to carry out the service. The best application of this in the government arena is due to shifting requirements causing peaks and valleys in workloads. Rather than hiring temporary employees or trying to shift civil service employees to meet changing demands, an outsourced service can shift automatically to changing needs without affecting internal organizations or staffing.

Outsourcing Pitfalls

According to the Outsourcing Institute there are three main warning signs for planning that could lead to an unsuccessful outsourcing venture. They are: 1) finance, legal, or contractors dominating the purchasing process; 2) failure to pre-qualify contractors based on past performance; and 3) short-term benefits dominating the decision to outsource. ["Avoiding Pitfalls" 1996]

The first suggests that business managers should drive the outsourcing process with clear and measurable objectives. The purchasing process should follow a well established set of rules and regulations, and relationships with contractors should be built on win-win attitudes. Of course, finance and legal issues have to play a significant role in the outsourcing process, but the ultimate decision to outsource should be based on a variety of factors including, not only finance and legal, but sound business objectives and decisions.

The second refers to the actual selection process of contractors to provide the service. Contractor's past performance, qualifications and prior contracting relationships should be a factor in selection for the outsourced service. The Outsourcing Institute goes so far to say that contractors should be prequalified before the Request for Proposal (RFP) is distributed.

The final potential downfall involves an over-emphasis on meeting short-term goals in the decision to outsource. The strategic reasons to outsource should emphasize the long term goals and objectives while meeting short term goals; there should not be an emphasis on short term goals alone. This is true of any planning process. Organizational changes that significantly change how services are delivered should be considered for the long term applications, not the short term applications.

In short, many factors need to be considered when deciding to outsource an internal function to external sources. Reasons to outsource a function should be based on sound business judgments involving financing, resource availability, outside expertise available in the marketplace, legal issues, internal controls and specific definitions of what is to be outsourced and how.

Outsourcing for the DOD

"The Vice President's National Performance Review initiatives and government policies to reduce the size of the federal workforce have challenged

federal agencies to reengineer their business practices to focus on mission-related activities, cut costs, and improve customer service.” [“Committee on Outsourcing” 1997]

Support activities in the Department of Defense (DOD) represent a significant portion of the total defense budget. In fiscal year 1996, the DOD will spend approximately \$ 93 billion on operations and maintenance. [“Improving the Combat Edge” 1996] Like most companies and organizations, the DOD is determining ways to both reduce costs and improve the overall performance of their support activities.

With the end of the Cold War, the DOD has tailored its force structure and budget to reflect continually changing security threats. The DOD’s current force structure is roughly 30 percent smaller than the 1980s and the budget has decreased from a peak in 1985 by 60 percent. [“Improving the Combat Edge” 1996] The DOD has implemented three significant initiatives to reduce costs and improve performance. The first initiative involved the Base Realignment and Closure (BRAC) process. The second initiative was the streamlining of the acquisition process through acquisition reform aimed at easing the cumbersome acquisition process. Finally, the DOD is beginning a review of support operations to determine where competitive forces (outside or internal) can improve performance and lower costs. Outsourcing offers an excellent method of meeting the third initiative.

The Deputy Secretary of Defense established a comprehensive, ongoing DOD-wide review to identify non-core functions that could be outsourced. According to DOD guidelines, only those activities meeting the following three criteria should be considered for outsourcing:

1. Private sector firms must be able to perform the activity. The DOD will not outsource activities which constitute core capabilities.
2. A competitive market must exist for the activity.
3. Outsourcing of the activity must result in the best value for the government. Activities will be considered for outsourcing only when the private sector can improve performance or lower costs in the context of long-term competition.

Through prior outsourcing initiatives, the DOD's experience has demonstrated that competitive outsourcing has resulted in significant savings and increased readiness. Cost comparisons conducted between 1978 and 1994 show a savings of about \$ 1.5 billion a year. On average, these competitions have resulted in a reduction of annual operating costs by 31 percent with private sector entities winning about half of the competitions (government entities won the other half). ["Improving the Combat Edge" 1996]

The benefits have stretched across a wide range of support activities in the DOD. Currently, the DOD outsources approximately 25 percent of base

commercial activities, 28 percent of depot maintenance, 10 percent of finance and accounting, 70 percent of Army aviation training, 45 percent of surplus property disposal, and 33 percent of parts distribution, to name a few examples.

In evaluating functions for outsourcing, the DOD has suggested some initiatives to make it successful. Changes to the traditional mode of approach for contracting out services need to be made including early investigation or market research of services available in the marketplace. Similarly, well written, performance based statements of work that contain output orientated measures of performance are essential. Typically, DOD has focused efforts on input-orientated specifications. Also, the issue of relocating personnel or helping personnel transition to the changing environment is essential to maintain current levels of performance and motivation.

Construction Management Outsourcing for Federal Agencies

There has been success utilizing construction management (CM) services from the private sector by several federal agencies, including the General Services Administration (GSA), Department of Energy (DOE) and the Department of Veteran's Affairs (VA). The main reason cited by these agencies for using private sector firms for management of their construction contracts is lack of number of federal employees available to properly oversee the construction process.

The GSA has used external sources extensively in managing their construction projects. They have used private sector firms in both the design and construction phases of a project, including retaining firms in cases of litigation or resolution of claims after project completion. Recently, they have awarded construction management services for both a single, large construction and renovation project of the ICC/USCS/CW and Ariel Rios Buildings (approximately 160,000 gross square meters) and an indefinite quantity contract to cover several construction projects (in the \$1 million to \$5 million range) located in the National Capital Region. Both of these contracts allow for flexibility in using the private firm for both design and construction management throughout the contract process. [Noll 1997]

The DOE uses private sector construction management on very large, high visibility projects. DOE contracts are typically cost-plus-award fee contracts with CM-at-risk firms contracting directly with the contractors. Their reasons for outsourcing construction management services are that large projects are infrequent occurrences, there is a small DOE staff dedicated to project management, competent contractors and subcontractors are available, and the contractor is assigned considerable responsibility and authority.

An example of a successful project for DOE was the Advanced Photon Source Project, consisting of one million square feet of building space at a cost of \$800 million. The facility was completed ahead of schedule and under projected

costs. An example of a DOE project that was not as successful was the Superconducting Super Collider Project, with a conceptual design cost of \$5.32 billion. This project underwent several modifications and changes to scope increasing the cost baseline to \$8.24 billion which lead to termination of the project by Congress. Termination costs alone amounted to \$735 million. Success, or lack thereof, was determined to be the same on both projects; project staffing and teaming concepts built during the process. Reasons cited for the lack of success at the Supercollider project were: lack of experience in leadership positions, teaming was not effective, confusion between project and customer/laboratory organizations and trusting relationships were not built between the DOE and the contractor. The success of the Photon Source project was directly attributed to: the teaming between DOE and the contractor, clear responsibilities between all parties, trusting relationships were built and experienced personnel at all levels assigned to the project. ["Committee on Outsourcing" 1997]

The VA has used external construction management services on several large projects. All of their construction management services have been awarded using a firm fixed price contract with a set number of hours for proposals. An example of use of construction management services was on the \$65 million clinic and renovation in Honolulu. Only two personnel from the VA were assigned to the project. All construction management was handled by a

contractor. The facility was completed on budget and within the assigned time period. Some of the benefits cited by the VA for using outsourcing are: funding for management comes from a different source, current VA staffing was not assigned where projects were located, and outsourcing allows for greater staff flexibility. ["Committee on Outsourcing" 1997]

Construction Management Outsourcing for DOD

Traditionally, the DOD has relied on in-house staff or the services of another federal agency, such as the General Services Administration, Army Corps of Engineers or NAVFAC, to oversee the design and construction of facilities. Most of the design and virtually all of the construction has been performed by contracted private sector firms.

The agency overseeing the design and construction is typically classified as a support function for the DOD. In other words, the agency's mission is to support the DOD in carrying out its mission, but is not a core competency of the DOD. Because of the nature of the work involved in construction management can be classified as not a core competency of the DOD, it is a prime candidate for outsourcing.

Construction management meets the three basic requirements of the DOD for consideration of an outsourced activity. First, the private sector has numerous firms capable of performing construction management services from

initial design determination to project completion. The Engineering News Record contains annual listings of the Top 100 firms that perform construction management in the United States and internationally. Billings for the Top 100 for-fee firms amounted to \$6.3 billion in 1996. The for-fee firms are not financially at risk for the project and act generally as a consultant and agent for the owner. They do not ordinarily contract directly with prime contractors. [Tulacz "The Top 100" 1997]

Second, because of the growth of the construction management industry, there is adequate competition in the market to keep competition as an advantage for contracting. More and more private and public owners are turning to construction management firms to do business. This demand has increased the number of firms providing these services.

Finally, outsourcing construction management can bring the best value to the government not only by introducing competition to an existing function, but by introducing new management techniques and innovative forms of management to the existing services provided by government forces.

This paper will focus on the outsourcing of construction management services specifically for the U. S. Navy in an effort to meet DOD initiatives for outsourcing and alternate ways of doing business. The feasibility, benefits and risks of outsourcing ROICC office functions, as well as common contracting methods for construction management services, will be briefly examined.

CHAPTER III

NAVFAC CONSTRUCTION MANAGEMENT

Naval Facilities Engineering Command, or NAVFAC, manages the planning, design, and construction of facilities for U. S. Navy activities around the world and also for some Air Force and other DOD and federal agencies as well. NAVFAC's annual volume of business is estimated at over \$7 billion. This includes over \$3.1 billion in fixed price, competitively bid military construction and repair contracts awarded to private businesses. About \$1.9 billion is expended at Public Works Centers, of which \$814 million is in contracts awarded within the private sector. NAVFAC and its subordinate commands employ approximately 661 active duty Civil Engineer Corps (CEC) officers, 615 active duty Seabees and 22,100 civilians. ["NAVFAC Facts" 1997]

NAVFAC's field activities include ten Engineering Field Divisions (EFD) and Engineering Field Activities (EFA) that provide engineering support and services to several hundred activities of the naval shore establishment; two Construction Battalion Centers (CBC) for homeporting and training Seabees; and the Naval Facilities Engineering Service Center (NFESC) providing specialized

engineering, scientific and technical services. Appendix A contains a map for location and structure of the EFD and EFA levels of command.

NAVFAC, in recent history, has undergone extensive restructuring to meet downsizing requirements affecting all facets of the military. Between 1988 and 1995, NAVFAC consolidated and restructured command-wide and as a result, decreased their size by 25 percent in the EFDs while at the same time achieving record levels of work-in-place (WIP) and environmental clean-up. [NAVFAC Improvement Plan 1995]

Due to decreasing budgets and personnel cutbacks, NAVFAC needs to examine new ways of doing business to continue to effectively respond to customer requests while still achieving the expected quality. Outsourcing construction management for the Resident Officer in Charge of Construction (ROICC) offices is one alternative to help meet the demands of "less people, more work".

ROICC Offices

The EFDs and the EFAs have field offices, or ROICC offices, located at several naval facilities in order to administer construction contracts. Contracts at these facilities may be developed and awarded at either the EFD/EFA level or at the local Public Works Department (PWD) level. Organizations involved in these two processes are shown below in Figure 3.1.

Traditionally, the ROICC office handles the contracts post-award when the contract is awarded at the EFD/EFA level. Minimal pre-award activities are assumed by the ROICC office and are usually limited to brief constructibility reviews, site visit coordination, contract file setup, and initial contacts with the key players (customer, A/E, and design manager points of contact). Personnel at the EFD/EFA level track all coordination with funding, design development and finalization, and contracting methods and award.

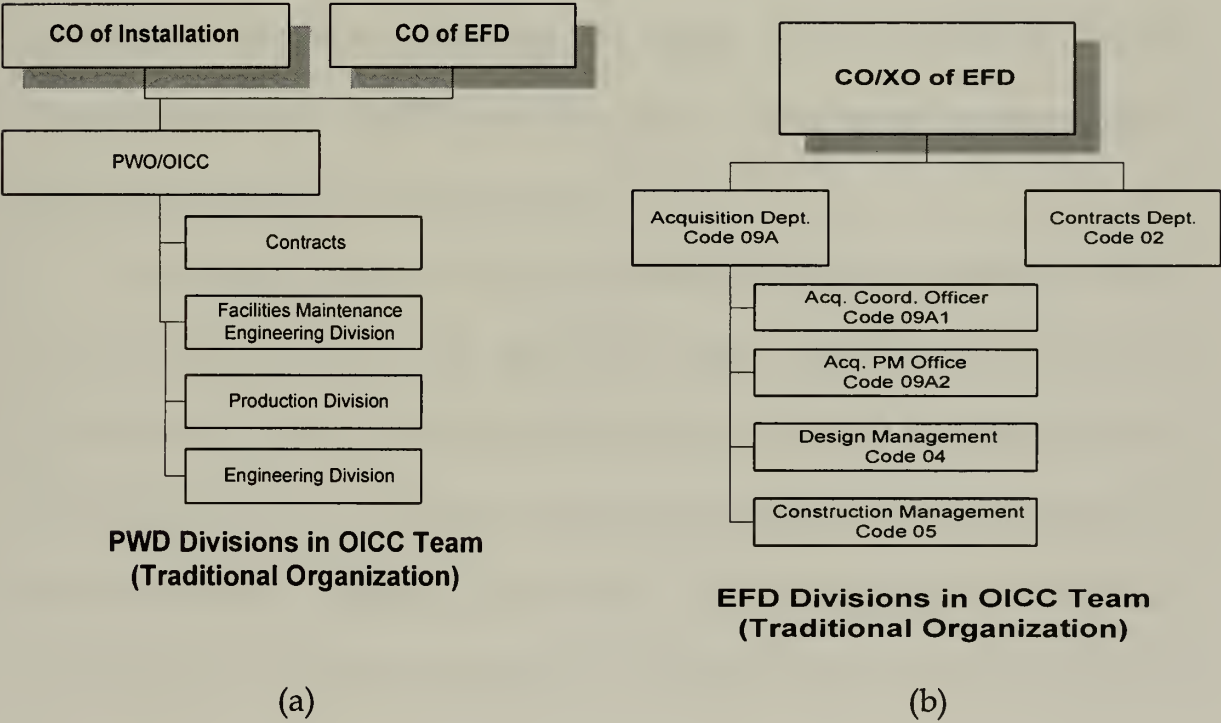


Figure 3.1. (a) Local PWD awarded contracts (b) EFD/EFA awarded contracts

For local PWD awarded contracts, the ROICC office still handles all of the post-award functions and the same pre-award functions as they do for EFD/EFA

awarded contracts. However, the ROICC office contracting staff may be more involved in the pre-award activities including decisions on contracting methods, bid openings, and specification and drawing reviews.

For dealings with the Architect/Engineer (A/E) firms, usually an Engineer-in-Charge (EIC) is selected at the beginning of the process to manage the A/E contract through design and to provide coordination during construction with the A/E. The EIC is located at the EFD/EFA level (in Code 04) or at the local PWD level depending on how the contract was awarded and developed. The ROICC engineer, in charge of the construction contract, coordinates through the EIC for A/E support on Request for Information (RFI), site visits, submittals, and change orders.

The attached Figure 3.2 is a flow chart of the functions normally handled by the ROICC office in the post-award arena. ROICC office post-award functions are typically the functions handled by construction management firms in the private sector. However, construction management firms, in addition to these post-award functions, are capable of handling pre-award functions; including A/E contract management, acquisition planning, and other pre-award functions.

The ROICC office is composed of several integral members of a construction management team. The contract specialists: prepare, distribute and evaluate the IFBs/RFPs; conduct negotiations; review and approve bonds and

Overview of Contract Administration Responsibilities of the ROICC

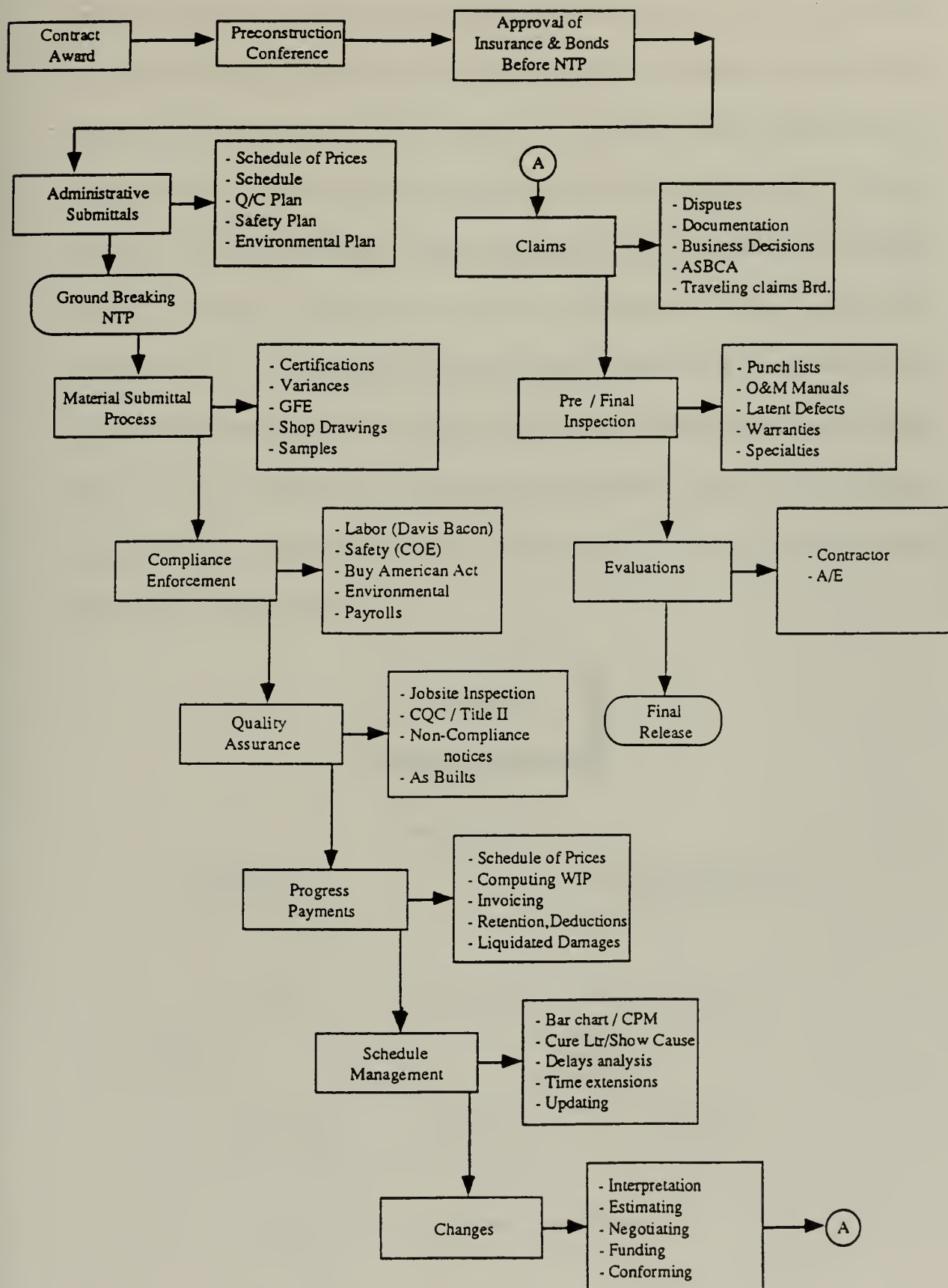


Figure 3.2

insurance; assist in contract interpretation; analyze claims; and, as a warranted Contracting Officer, sign contracts and modifications. The engineers conduct the day-to-day administration of the contract, including assuring performance in accordance with the plans and specifications; monitoring quality, safety, progress, and cost; providing documentation and correspondence as necessary; and other matters pertaining to contract performance. The construction representatives, or conreps, are responsible for inspection of construction and quality assurance, documenting performance, coordinating contractor activities (such as power outages), and monitoring compliance (such as Davis Bacon wages). [ROICC Office Management 1994] Figure 3.3 is an example of a small ROICC office organization.

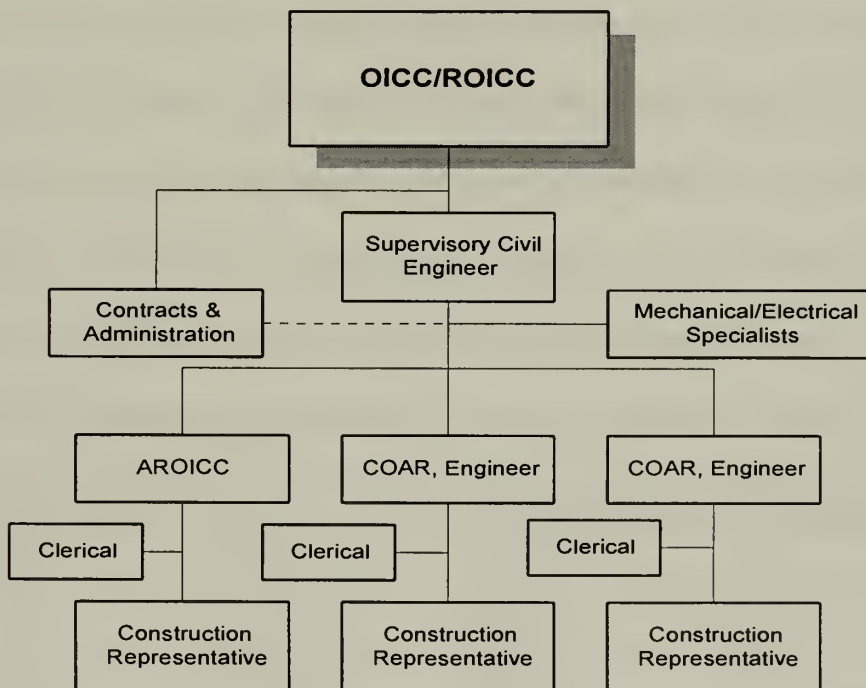


Figure 3.3. ROICC Office Organization

ROICC office functions are applicable to private sector construction management firms. Other than inherently governmental functions, explained later in this chapter, the duties and responsibilities of ROICC office personnel are easily transferred to the private sector. By outsourcing the traditional ROICC office function, NAVFAC would hope to gain most of the benefits described in Chapter II.

ROICC Outsourcing Feasibility

Due to mandated decreases in budgets and personnel, other methods of doing business must be utilized in order to meet overall DOD objectives. Outsourcing, as described in Chapter II, is a possible solution to meet some of these objectives. ROICC offices, as are all parts of the Navy, are experiencing mandated decreases of personnel without drops in workload. Table 3.1 is an example of projected decreases in personnel and workload at the EFA level. The workload, or WIP (work in place), is projected, and could easily increase with additions of BRAC work if another round of base closures occurs. Field personnel projections represent those personnel assigned to ROICC offices.

Fiscal Year	WIP	Field Personnel	HQ personnel
95	\$ 303M	162	14
96	\$ 323M	156	12
97	\$ 340M	138	11
98	\$ 355M	134	11
99	\$ 362M	130	11

Table 3.1. Projected personnel and WIP at EFA Chesapeake [Garner 1997]

In order to meet increasing workloads, while still decreasing the number of personnel, outsourcing can be used to “fill the gaps” of personnel losses. By outsourcing to private construction management firms, the ROICC offices can fill gaps left by loss of personnel. The construction administration performed by the current ROICC offices includes basically the same skills found in the construction management private sector. However, some requirements in management of federal contracts might have to be taught to private sector companies. Examples include: Davis-Bacon and Buy American Act enforcement, other clauses found in federal contracts, and general correspondence requirements unique to federal contract administration.

In comparing reasons for outsourcing discussed in the second chapter, it can be found that outsourcing the ROICC (and perhaps additional functions, such as pre-award and design firm management) office meets the requirements for an outsourced function.

In my opinion the ROICC office is not a core function of the Navy. The ROICC office serves to support the Navy in achieving goals of national defense. The function is required so that the Navy is able to continually perform its function for society, but outsourcing the function does not sacrifice the ability of the Navy to perform. By outsourcing ROICC office duties, other governmental resources can be freed up for cutbacks or reassignment to areas better relating to core competencies.

Through the outsourcing of ROICC office functions, the use of emerging technologies in construction management can be realized. The government, due to its sheer size and enormous chain of command, is slow to change and thus slow to adopt the newest technologies used in the market. By outsourcing to the private sector, the Navy can hopefully realize the benefits of new technologies through opening the ROICC office function to competition.

By contracting for services, greater control can be utilized over the expenditure of costs and meeting WIP to personnel ratio needs for effective management. For example, currently if the workload experiences a drop for a year, employees will probably not be reassigned or dismissed, because of the need in the coming year. However, in outsourcing only the services required for a period of time are contracted for, thus greater control over WIP to personnel ratios can be achieved.

Finally, the ROICC office meets DOD requirements (outlined in Chapter II) for a function that may be outsourced. In other words, there is adequate competition in the current marketplace to provide the service; it is not a core competency; and the government should receive the best value through proper contracting and planning of outsourcing the activity.

In the Logistic Management Institute's (LMI) study of construction management costs for the Navy, they compared NAVFAC's activities with what is normally done in the private sector for construction management. LMI found

that NAVFAC and the private sector perform, for the most part, the same functions for a construction contract. Duties performed by ROICC offices and the pre- and post-award functions performed in EFA/EFD, or at local PWDs, are equivalent to those performed in the private sector. [Campbell 1996]

Inherently Governmental Functions

All ROICC office functions are capable of being outsourced; except for those functions designated as inherently governmental. According to FAR Subpart 7.501 an “inherently governmental function is one in which the function is so intimately related to the public interest as to mandate performance by government employees. It includes activities that require either the exercise of discretion in applying government authority or making value judgments in making decisions for the government.”

While inherently governmental functions involve binding the United States by action, policy, contract or otherwise; they do not include gathering information for or providing advice, opinions, recommendations or ideas to government officials. [FAR Subpart 7.501]

FAR Part 7.503.c.12 lists functions considered inherently governmental with respect to federal procurement activities on prime contracts. Included among these functions are: participating as a voting member on a source selection or performance evaluation board; approving contractual documents;

awarding contracts; administering contracts (i.e., ordering changes, accepting or rejecting contractor services); and terminating contracts.

However, FAR Part 7.503.d lists functions that normally are not considered inherently governmental. Included among these functions (relating to the above prohibited functions) are: participating as technical advisors to a source selection board or as a voting member of a source evaluation board; providing technical evaluation of contract proposals; participating in any situation where it might be assumed that they are agency employees or representatives; providing inspection services; and providing assistance in contract management.

The ROICC functions that equate the closest to inherently governmental functions are the positions of the contracting officers and serving as voting members on source selection boards. All other positions, including engineers, conreps, and procurement technicians, are capable of being outsourced. However, some engineers are given the authority to act as a Contracting Officer's Authorized Representative (COAR) allowing a minimal (approx. \$5,000) approval of change orders. The approval of change orders is an inherently governmental function because of the implied commitment of funds, and therefore could not be outsourced. However, all functions relating to a contract up to the actual decision and approval of change orders could be performed by a non-governmental employee.

After award of a contract, even if the performance of that contract does not involve an inherently governmental function, steps must be taken to protect the public interest by the agencies playing an active, informed role in the management of the contract. [“Inherently Governmental Functions” 1996] Essentially, this would require NAVFAC to maintain contracting officers to monitor the construction management contracts, not only for contract actions (such as contract award and modifications and payments) with the separate parties, but also to monitor the construction management contracts themselves. Amount of oversight of the construction management contract depends on the type of contract, size of contract, and size of construction/design contract. This is discussed in more detail in the next chapter.

Construction Management Costs

As with any decision to change current business practices, a cost comparison is required in order to make an informed business decision whether or not to institute any changes. An obvious cost associated with a decision to outsource includes money paid to the hired contractor providing the service. In addition, costs for soliciting bids and proposals, of choosing providers, and costs of monitoring performance must be considered. [Finley 1989]

However, by keeping the service in-house, existing costs should be considered, such as monitoring performance of the current system, and all costs

associated with providing the system. Also, with shrinking budgets, providing the service from a different “funding pot”, may be the only alternative to the current system in order to use the available funding for operations.

In choosing services to outsource, the size and scope of the services required should be taken into account in order to keep costs at a reasonable level. Projects should either be large dollar value contracts or a number of contracts. This allows the private sector firm to spread their overhead and profit costs over a distributed area keeping the overall costs of the service down. [“Committee on Outsourcing” 1997]

A detailed cost comparison with the private sector is a difficult activity because of differing management methods and contracting in the private sector. In order to determine if NAVFAC was charging its customers a competitive rate for providing construction management services, NAVFAC hired LMI. LMI compared the NAVFAC supervision, inspection, and overhead (SIOH) rate with costs of providing the same services that NAVFAC provides in the private sector. In general, LMI found that the SIOH rate, which is a fixed fee, charged by NAVFAC is competitive with the median “full-service” private sector fees. NAVFAC also provides inherently governmental services under the SIOH funding umbrella. According to LMI, on average private sector firms provide only 82 percent of the services that NAVFAC as a whole provides. These additional services include inherently governmental functions, policy

coordination and provision of information to the Office of Management and Budget and Congress. [Campbell 1996]

However, most of the additional services provided by NAVFAC cannot be contracted out because they are inherently governmental. While NAVFAC appears to charge customers a competitive fee for their services, the question should be asked as to whether this fee covers all costs burdened by NAVFAC and whether or not the quality expected is being delivered. For example, NAVFAC does not charge the customers for services provided by CEC officers (funding comes from another budgetary source); therefore costs for providing complete NAVFAC services can be greater than the SIOH charged for each contract. The ability of NAVFAC to handle the current WIP projections while still decreasing the number of federal employees has to be addressed. Contracting out some services may be the only alternative when faced with the decreasing constraints on numbers of federal employees and budgetary constraints.

Advantages of Outsourcing to Private Construction Management Firms

The three greatest advantages of outsourcing traditional ROICC office duties to the private sector are: 1) contracting allows for greater flexibility in meeting short term increases in WIP without the hiring of additional personnel or shifting personnel from one site to another, 2) contracting can allow for

staffing of isolated activities without having to staff a new office or keep a minimal staff to oversee construction (ideal for base closures and isolated activities), and 3) private sector services can be used throughout the contracting process from A/E services through construction completion allowing for project continuity throughout the process.

Because of current global threats and political atmosphere, the Navy is experiencing cutbacks in funding and appropriations. Also, the military is experiencing drawdowns of both military and civilian personnel. However, construction workloads have not experienced the same cutbacks, and in fact, in some cases have increased over the past few years. To meet both the requirements of cutting personnel, while still managing the current workload, outsourcing is a viable alternative to hiring temporary employees or shifting of current employees. Contracts can be used to meet increasing workloads and peaks in construction activity; while still maintaining or cutting back the current organizational structure. The ROICC system consists of permanent government employees which involves complicated hiring/firing methods that are not effective in meeting ever-changing needs of the installations that they support.

Outsourcing can also be effective when trying to meet demands at isolated activities or for single large construction projects. Rather than setting up a one-time ROICC office for a single project, contracting an outside firm to handle the on-site administration could be more effective. By doing so, personnel would

not have to be shifted from current work or other areas to meet this need. Also, at isolated activities where there are not current ROICC office resources, outsourcing to private firms could also be more effective for the same reasons. The current ROICC system would require the shifting of employees from their current positions, or the hiring of additional employees, in order to meet these new demands.

If the outsourcing of construction management services begins at the beginning of the project phase, then the full advantages of outsourcing this function can be met. The current system can consist of the A/E contract being handled by the design management division (Code 04), the construction contract procurement handled by the contracts department (Code 02), the construction phase managed by the construction management division (Code 05), and the day-to-day administration managed by the ROICC office. By outsourcing early, all of these functions (except inherently governmental functions) can be handled by one project team provided by the contract. This would provide continuity throughout the process and also relieve the local PWD or EFD/EFA Code 04 some workload responsibilities.

Several different types of contracts can be used to implement construction management services into the current NAVFAC system. Through these different contract types, different levels of governmental supervision as well as amount of

services are required to protect government interests in the project. Chapter IV examines these issues in more detail.

CHAPTER IV

IMPLEMENTATION

There are many options that can be explored as to how to provide construction management services contracted out to the private sector. Should construction management services be used on a project by project basis, as a “backfill” for understaffed ROICC offices, or to replace a ROICC office? Should a cost-plus-fee, firm fixed price, or indefinite quantity contract be used? Should services be used for the whole project process (i.e., from A/E management to post-award construction), post award construction only, or only those services needed (such as inspection services)? There are no easy answers to these questions. In fact, all choices are applicable in different scenarios. One of the advantages of using a contracted service is the flexibility to adjust that service to changing, or particular, needs. This chapter will briefly examine how construction management services can be used with different contract types and some advantages/disadvantages with each option.

Risks

With every contracting option, risks must be addressed and assessed to determine if the risks are low enough that contracting is not a detriment to the process. When contracting for construction management, the risks to the government include quality of service provided, capabilities of contractor to carry out the contract to its term, and protection of government interests. Contractor risks for construction management contracts are minimal, providing that they are capable of meeting contract requirements. Because the design is the responsibility of the A/E and the construction is the responsibility of the construction contractor, liability for these issues is generally placed on those entities, not on the construction management firms.

The assumptions for this paper when discussing issues of contracting for construction management services include the following:

- (1) contracts for A/E services and for the construction of the project are held between the government and entities separate from the CM contractor.
- (2) the construction management services are provided by CM-for-fee, not CM-at-risk, arrangements. CM-for-fee firms are not financially at risk and act as consultants for the owner. CM-at-risk firms contract out the design and construction of the project and are financially at risk for the project.

- (3) Oversight of the construction management contract is provided by NAVFAC contracting officers and their representatives.

The government can reduce its risk in contracting out a service by using the source selection process/RFP process. By carefully evaluating contractors on pre-determined factors, a competent contractor with the financial ability to conduct the contract can be chosen. Also, by writing contract specifications clearly delineating the responsibilities of the construction management firm, liability and other contractual issues can be resolved before any determination of award. In order to ease firms in the transition of doing business with their organizations, some government agencies offer training classes (one or two day) for their contractors on basic paperwork requirements and unusual regulations before the start of the contract.

Source Selection vs. Brooks Act

Source selection under FAR Subpart 15.6 is different than Brooks Act selection procedures. The Brooks Act covers selection of A/E services defined as “professional services”. Specifically, professional services of an architectural or engineering nature are “required to be approved by a person licensed, registered, or certified to approve such a service” [Construction Contract Management 1994]. CM services can fall into this category, in some cases,

currently handled as Title II services with an A/E. These services are usually limited to inspection services during the construction performance of the contract. However, overall CM services are not necessarily classified as “professional services” requiring Brooks Act procedures.

Source selection procedures differ from Brooks Act procedures in several ways. Table 4.1 [Government Contract Law 1994] lists some of the differences in selection between the Brooks Act and source selection procedures.

Brooks Act	Source Selection
Requirement is identified and advertised.	Requirement is identified and advertised while solicitation package is prepared.
Advertisement states evaluation criteria.	Solicitation states evaluation criteria.
Technical competition between qualification statements from the A/E firms meeting advertised criteria.	Price competition between proposals that meet minimum requirements stated in the solicitation.
Technical competition involving evaluation of qualifications without regard to price.	Competition involving evaluation and comparison of price and other factors.

Table 4.1. Brooks Act versus Source Selection

As can be seen from Table 4.1, the main difference between the two procedures is that the Brooks Act compares firms without regard to price while

the source selection process compares both price and other factors in selecting a firm.

For NAVFAC, the source selection process is best suited for the delivery of CM services to protect government interests in both quality and cost of services. In source selection while the lowest price may be the deciding factor, the government may also select the source whose proposal offers the greatest, or best, value to the government in terms of performance and other factors. This allows for greater flexibility in the selection of contractors achieving the best value for the government in selection.

Contractor Selection

In order to achieve the quality of services that NAVFAC provides to their customers and to reduce the risks on the government, contractors need to be carefully selected to fill the ROICC office functions. The use of some contract methods, such as one step sealed bidding (IFB), are not adequate to properly select an outsourced service while still expecting the delivery of a quality service. As was pointed out in the second chapter, a common downfall in the outsourcing process is a failure to pre-qualify contractors based on their past performance. By using the source selection process by distributing a RFP, instead of the IFB process, the chances for success are greatly increased. The RFP process

essentially performs its own pre-qualification of the submitted offers based on the evaluation criteria contained in each solicitation.

In order to "pre-qualify" contractors for each solicitation, Go/No Go factors may be used. These factors essentially narrow the number of submitted contractor proposals only to those meeting basic project requirements, such as personnel qualifications or project specific requirements. If a proposal does not meet these minimum requirements it is not reviewed further and is not considered for the competitive range of proposals. Other evaluation factors are reviewed in the technical proposals for management and project specifics.

Evaluation factors for technical proposals can differ from solicitation to solicitation for different specialties of construction and design, but for the most part, the basic criteria for selection remains the same in different solicitations. These include past performance, relevant experience, key personnel qualifications, management approach, contractor capabilities, and a subcontracting plan. Technical and price factors are evaluated separately in technical proposals and cost proposals, respectively. In the best value approach, technical proposals are given a heavier weight than cost proposals.

Past Performance. Past performance is a factor used in determining the quality of a contractor's past performance. A contractor can be asked to provide prior evaluations from government contracts and to provide owner points of

contact on previous projects. Contractors can also be asked for demonstrated performance on certain services, such as constructibility reviews, performing technical and code compliance reviews, and familiarity with other design phase issues, as well as experience in managing and administering all aspects of the construction phase. Information provided in the proposal as well as other sources, such as other governmental agencies or private agencies like Dun & Bradstreet , can be used to determine the quality of contractor proposing.

Relevant Experience. Similar to the past performance criteria, this factor examines past projects and their relevance to the project being solicited. This factor is useful for determining a contractor's experience with projects of an unusual nature requiring specialized skills. Some examples include: hospital construction, government contract experience, large construction projects, explosive production facilities, and power plants. This factor is commonly used as a "go/no go" factor in General Service Administration (GSA) construction management contracts. This ensures that only those contractors with experience relating to the type of project being solicited are eligible for evaluation.

Key Personnel Qualifications. This factor addresses how a contractor plans on staffing the project and what the qualifications of the key personnel are. This can include past projects relevant to the proposed project and professional

qualifications of the individuals. For construction management contracts, some key personnel could include the construction manager, project engineer, and quality assurance inspector. The overall success of a construction management service is directly dependent on the people assigned to the project and their abilities to manage and form working relationships with other members of the project team. This factor alone can lead to the success or failure of a project due to the personnel selections.

Management Approach. This factor is similar to the work methods factor typically used in construction solicitations. This factor can include a narrative by the contractor describing their approach in providing high quality deliverables in a timely manner and managing construction management work. It should also include: a project staffing plan for each phase of work (e.g. design phase, procurement phase, construction phase, claims and testing services); all applicable construction management functions required during the different phases; and teaming and partnering concepts with A/E, construction contractor, customers and NAVFAC employees.

Contractor Capabilities. Similar to the management approach factor, but on a more general discussion on overall firm capabilities. Evaluation of this factor relates to a contractor's ability to perform the level of work required by the

solicitation, including: current workload and expected workload during the period of contract performance, types of services the firm performs, sufficient numbers of staff to perform the functions required, adequate computer resources, and legal associations with other firms are clear and acceptable.

Subcontracting Plan. A comprehensive narrative describing the offeror's subcontracting plan in accordance with FAR 52.219-19. The Subcontracting Plan should describe how the contractor is going to meet subcontracting goals as delineated in the contract. Examples of some issues include; small business and minority-owned business goals for hiring subcontractors.

These factors are not the only factors that can be used on a solicitation. These factors, as well as other factors, are dependent on the type of project in the solicitation and the services required for the project. The above factors were taken from different solicitations on GSA projects for construction management services.

Contract Types

Different types of contracts are suitable for different projects and any determination on the contract type should be tailored to the individual intended use of the service. This section will briefly examine three types of contracts

suitable for construction management (CM) services; firm fixed price (FFP), indefinite quantity (IDQ), and cost plus award fee (CPAF). Other types of contracts can be used, but these appear to be the most commonly used in other federal agencies, such as the Department of Energy (DOE), Veteran's Administration (VA) and the General Services Administration (GSA).

Firm Fixed Price. The firm fixed price (FFP) contract occurs when the government pays a price that is not subject to any adjustment, regardless of cost experience. [MDAC 1991] FFP contracts place the maximum amount of risk on the contractor and give the contractor a greater incentive to control costs. However, for CM services, the FFP contract typically contains a set number of workhours for the contractor to price for a specific phase of the contract (phases may be broken into options or all in the base contract). If the construction contract time runs over the specified contract period, modifications must be issued to account for the CM service time period. Also, typically, the hourly costs for various services is set in the contract for the pricing of the contract and any subsequent modifications. Payment is based on the level of effort expended rather than results achieved. In other words, the contractor provides a specified effort over a stated period of time.

FFP is best suited for the delivery of CM services on a specific project where the scope and extent of services needed for a project are known. If only

one project is to be contracted for CM services, then a FFP contract may be the best alternative for that delivery. FFP allows for a fair and reasonable price established at the contract award. However, a single project can contain several different services and careful planning must be used for the writing of the solicitation and inclusion of detailed levels of service should be specified. FFP contracts require a more detailed specification than other contracting methods and typically is less flexible than other methods of contracting.

Indefinite Quantity. An indefinite quantity (IDQ) contract provides for the indefinite quantity of specific supplies or services, within stated limits, to be delivered during a fixed period. [MDAC 1991] Deliveries of services are scheduled by placing orders, referred to as delivery orders or task orders. Typically, in CM services, prices are based on market prices for hourly costs for services (adjustment factors are used as a price comparison basis for the submitted proposals). An example of the price list, from GSA Contract GS11P97AQD0009 - White House Project CM Services, is contained in Appendix B. Typically IDQ contracts are used when a predetermination cannot be made as to a definite quantity of services required. A contract minimum amount is set as well as a maximum per delivery order.

IDQ contracts are best suited for “umbrella” coverage over a region for CM support. The contract could be centrally managed from the EFD/EFA level

for use in the various ROICC offices as the need arises. In this manner, the IDQ contract can be utilized in a manner similar to the Job Order Contract (JOC) with delivery orders placed when services are needed. This is especially applicable for the current atmosphere of downsizing to be used as a backfill for smaller offices experiencing increases in workloads. Through the IDQ contract, services can be provided for the phases needed and for projects that cannot be properly staffed with governmental employees. Disadvantages with the use of IDQ contracts include: negotiations are required for each delivery order, and there is no competition for a delivery order, only one source is used through the IDQ contract which limits competition for projects after the initial award of the contract.

Cost Plus Award Fee. In a cost-plus-award fee (CPAF) contract, the government pays the allowable costs, a base fee (can be zero) and an award fee. The award fee is paid in whole or part based on the subjective evaluation by the government of the contractor's performance. Determination of the award fee is made unilaterally and is not subject to the Disputes Clause. [MDAC 1991] Typically, a CPAF contract is used when it is not feasible to devise objective incentive targets. Its use supposedly will effectively motivate the contractor toward exceptional performance and provide the government with added

flexibility. However, added administrative costs are evidenced in a greater requirement for supervision for invoicing and oversight.

CPAF contracts can be used in varied ways for CM services. They can be used for a single project that is unique in nature or as a tool for a firm to manage a complete ROICC office. By using a CPAF contract, greater flexibility can be utilized for different CM services, up to and including running a ROICC office. Due to changing requirements in a typical fiscal year, the ROICC office tasks can change and by using a CPAF contract, these changes can easily be adjusted to the contract providing they are in scope changes. However, as was stated earlier, greater supervision requirements may be required to assure accurate billing and provision of services.

Monitoring Outsourcing

As was discussed in Chapter III, inherently governmental functions cannot be contracted to the private sector. This requires the government to have personnel oversee contracts who are capable of taking contract actions for the government. As an absolute minimum for the management of CM contracts, a contracting officer is required to be able to approve modifications to all contracts for the project (A/E, construction, and CM services), approve invoice payments to all parties, award contracts, and other actions as described in Chapter III.

The organization of a project with the use of CM services is depicted in Figure 4.1. The CM firm serves as a consultant managing the day-to-day activities of the A/E and construction contracts for the government. All parties have contracts directly with the government to prevent conflicts of interest. However, the CM firm does oversee the A/E and construction contracts to manage project completion. Any contract actions with these entities have to be done through the government, but the CM firm can process changes, payments and other contractual items through the government representatives. In cases of a design-build contract, only two entities would have a contract with the government (i.e., the design-build firm and the CM firm).

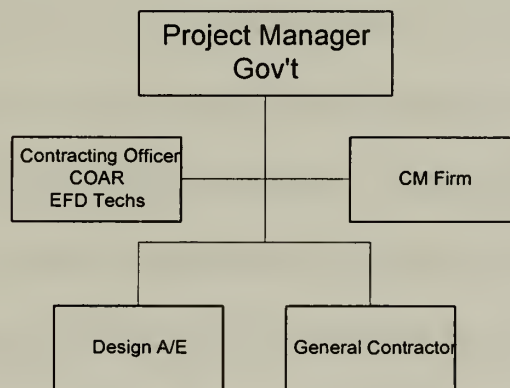


Figure4.1. Project Organization

The number of government representatives per project depends on the size of the project, phase of the project and the extent of use of CM services on the project. At a minimum, a contracting officer is required to take contract actions. Because of the inherent workload of a project, a Contracting Officer's Authorized Representative (COAR) would probably be required for technical

advice and to monitor the CM contract for compliance with specification requirements. This could include attending project progress meetings, site inspections when deemed necessary, reviewing payment recommendations for both the design and construction parties for accuracy, and coordination with the CM firm for contractual actions.

Overall project management should be done through the government. This includes initial project conception (determination of project needs and scope, other planning required including budgeting decisions) and soliciting the CM firm. Responsible items depend on when the CM firm is awarded their contract. For example, should the CM firm be brought on board before the A/E contract in order to help in A/E selection; after the A/E has been selected to manage that contract; or during design development for constructibility reviews and to help in construction contractor selection. Any of these may be acceptable options and need to be decided upon early in the project planning process.

In the design phase, the CM firm can serve in two different ways, as a ROICC or as EFD/EFA design management. By replacing ROICC office functions, the CM firm would handle constructibility reviews and early project team coordination as well as procurement assistance. In this case, the government would have to have personnel to manage the A/E contract and conduct design reviews. By replacing the EFD/EFA, or local PWD, design management, the CM firm would be responsible for coordination between the

A/E, owners, and design review personnel, design review, scheduling, and any value engineering. In this case the government needs to have personnel to monitor the CM firm and to conduct any design reviews that remain with the government (for example, fire protection and environmental reviews could remain with the government because of specialized requirements).

In the procurement phase, the CM firm can perform burdensome tasks such as coordination between all parties, writing and distributing of amendments, market surveys, bid estimate, consultants for source selection boards, writing CBD announcements, and other items as deemed necessary. Due to the abundance of inherently governmental functions in this stage of contracting, all of the contractual decisions would have to be made by government employees.

In the construction phase, the CM firm handles all coordination between the A/E, general contractor, customer, and NAVFAC representatives. The CM firm would also handle submittal review process, inspections, RFI process, estimation/negotiation of changes, progress payment process, schedule compliance and review, project documentation and all other items that a ROICC office would normally handle (see Figure 3.2) except for inherently governmental functions. Government monitoring depends on the amount of supervision determined to be necessary. The CM firm is normally required to submit monthly progress reports along with progress payment requests, including any

progress meeting notes and log updates that are included in the submission. Government monitoring can include a COAR to attend progress meetings and make intermittent inspections and others if determined necessary by the project scope and complexity.

Potential Problems

As with any change in a management system, there are potential problems that if addressed early can reduce their impact. Some problems with outsourcing of ROICC office functions include: existing personnel issues, training of personnel, CM firm liability, and retaining a base cadre of experienced CEC officers. Additionally, the evaluation or benchmarking of the performance of the CM firm as compared to government forces is very important and should be addressed in policy and procedures.

Inherent in any outsourcing activity is the potential for loss of personnel currently in positions performing those activities. If CM services are used to replace entire ROICC offices, then those personnel will face dislocation. Whether or not ROICC offices are outsourced, the numbers of personnel are declining and actions have to be taken to ensure the ease of transition of personnel to other jobs. DOD actions significantly eased such personnel transitions during recent drawdowns and BRAC rounds. ["Improving Combat Edge" 1996] Several tools

are available to ease the process of relocation of personnel, whether to another governmental agency or outside of government service.

However, if ROICC offices are supplemented with CM services and not replaced, then personnel problems will still exist in other forms. The largest of these is the fear of job loss due to the use of CM services instead of government forces. This can create a reluctance to use CM services if available, even if they are needed to relieve workloads on government employees. This problem is not easily solved and probably can only be relieved through open communications between the ROICC offices and the EFD/EFA and NAVFAC levels of command. Through communication between the field offices and headquarters as to the use and extent of use of CM services, hopefully, fears and reluctance to use CM for ROICC office functions when necessary would be reduced.

Proper training in the roles of the CM firm and the roles of government with these contracts would need to be done to ease the transition in use of CM services. The management of CM services is different from other service management contracts. The biggest obstacle is for the government to overcome their "need" to control every aspect in a contract. The CM firm has to be entrusted to an extent to properly manage both the A/E on record and the construction contractor. Only monitoring of the CM firm performance and checks on the design/construction progress should need to be done by the government.

Training of the CM firms into the NAVFAC paperwork system might be necessary to have a smooth process during their contract performance. This training could be a day or two (similar to a pre-construction conference) to train the CM firm on NAVFAC methods of business, limits of authority, ethical conduct during contract performance and relationships with specific team members. However, in conducting such training, the government should be careful not to "handicap" the CM firm to doing business the government way. This could be detrimental to the advantages of outsourcing and taking advantage of the hired CM firm's way of doing business.

Because of the method of contracting for a CM-for-fee firm, financial liability for the construction of the project is not a responsibility of the CM firm. It should be spelled out in the specifications who has the liability for different phases of construction. In other words, the A/E firm has responsibility for the design and the construction firm has responsibility for the construction. The CM firm is limited to managing the oversight and contract performance of these entities. There may be occasions where the CM firm is reluctant to take action for fear of assuming liability during construction. In such cases, the government must ensure all parties are clear as to responsibilities and liabilities for such events.

By outsourcing the ROICC process, the Navy loses important training billets for their CEC officers. CEC officers require on-the-job construction

experience to be better able to perform their duties during mobilization and other times of conflict. Currently, CEC officers receive most of their construction experience in the Seabees and at ROICC positions of responsibility. ROICC offices allow CEC officers to be intimately involved in the management of construction projects. While outsourcing ROICC would eliminate the current billets for CEC officers, Seabee billets would still remain for training purposes, and additional billets could be created for the management of the projects at the Contracting Officer or COAR level of CM service supervision.

A determination of how the use of private sector firms to conduct CM services has improved the process and whether or not it is effective is an important measure of the outsourcing process. A comparison of outsourced services, along some benchmarks against which to rate the performance of services, is necessary to determine the level of performance service and if the service is meeting the needs of the government. Whether performance is graded through customer surveys, observations of performance, or against certain measurements of performance such as modification percentages and claims against the government, should be considered. How to set benchmarks and what to measure against is a difficult process that needs further examination and is not covered in this study.

CHAPTER V

CONCLUSION AND RECOMMENDATIONS

The outsourcing of ROICC office functions is a viable alternative for NAVFAC to meet current demands to downsize and still be able to properly manage increasing workloads in construction contract management. In order to outsource construction management to the private sector, NAVFAC needs to maintain a core group of Contracting Officers and COARs to perform inherently governmental functions and protect the government's interest. All other ROICC office functions are capable of being outsourced.

By outsourcing ROICC office functions, NAVFAC could meet short term goals of reductions in federal employees, and realize the long term benefits of a more flexible organization capable of changing with differing demands from customers. In outsourcing, NAVFAC would hope also to realize benefits typically found when a company outsources. Some of these benefits include: better management of costs and control measures, introduction of newer management technologies in the field, and project continuity from initial design through final construction completion.

In order to realize the benefits of outsourcing, NAVFAC has to ensure that proper planning and coordination is done prior to any outsourcing. Open lines of communication with all levels of the chain of command need to be maintained with regard to the outsourcing process. Proper training, not only of government employees monitoring construction management contracts, but of the private sector firms, needs to be done to ensure a better transition to the use of the outsourced service.

My recommendations based on the research done for this paper include the following:

- (1) Immediately start the process of instituting IDQ contracts for construction management services at the EFD/EFA levels of command to be run similar to the JOC contracts.
- (2) NAVFAC begin educating employees as to the purpose and use of the construction management contracts in the field.
- (3) NAVFAC should pick a couple of projects in the coming year for use of private sector construction management services starting at the design management phase of the project through project completion.
- (4) NAVFAC should begin investigations into outsourcing ROICC on a wider scale to determine organizational and customer delivery effects.

By instituting IDQ contracts now, NAVFAC can fill the short term effects of downsizing while workloads continue to increase. This will continue to provide customers and the Navy with the service required for construction management.

Education of employees will ease the transition to the use of construction management services when needed and how to monitor the contracts to ensure quality performance.

By selecting a couple of projects to use private construction management services from beginning to end, problem areas for future contracts could be identified and resolved; and benefits/costs of maintaining the service including how to monitor the contracts can be observed. Teaming and partnering concepts should be utilized to define roles of all contractual parties and to open lines of communication.

By investigating how to institute outsourcing of ROICC office functions on a wider scale, NAVFAC can determine better ways to utilize the service for the long term and begin to formulate policies to realize long term benefits.

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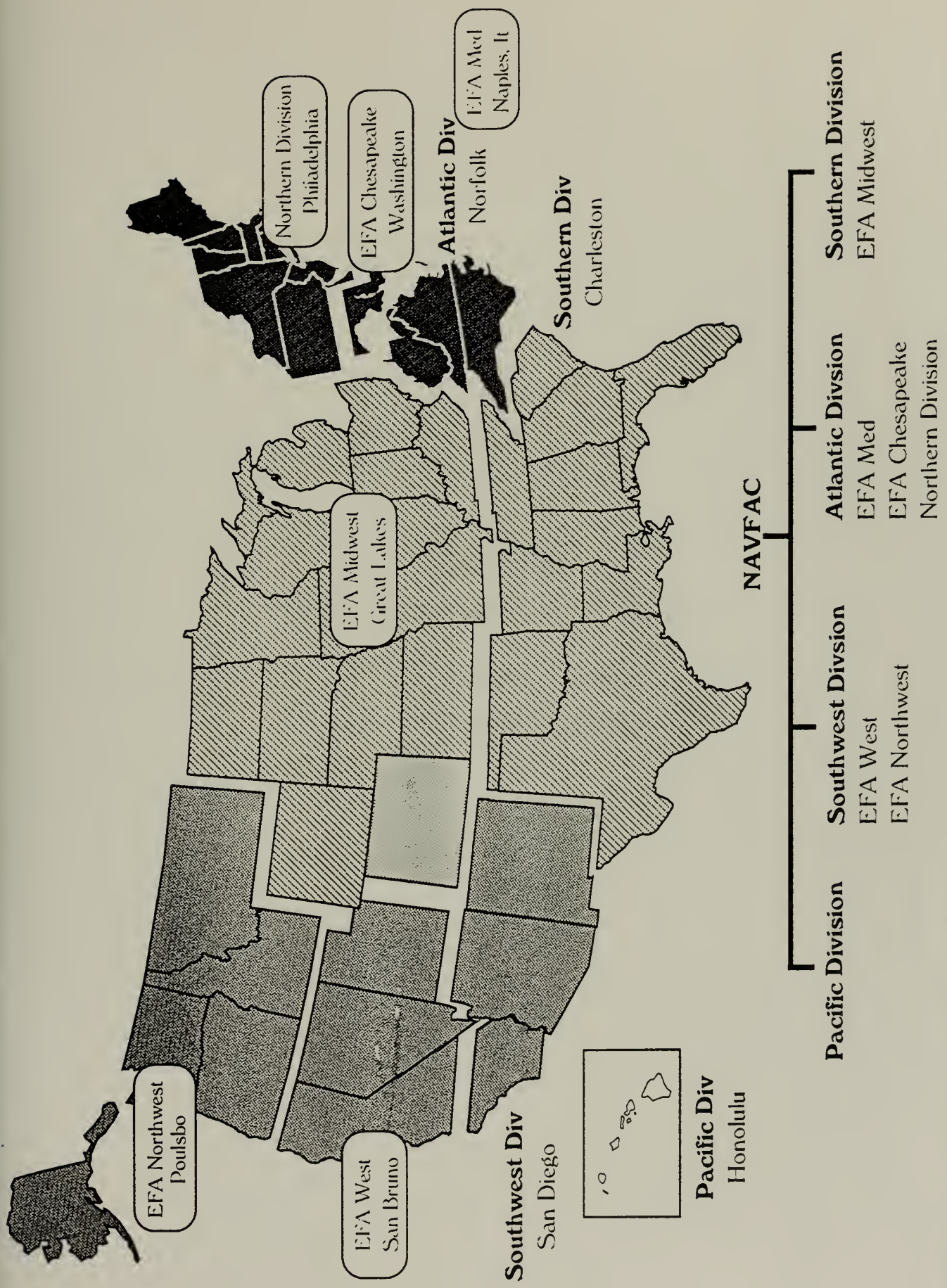
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Appendix A
EFD/EFA Location Map



Appendix B

GSA Supplies or Services and Price/Costs

Indefinite Quantity Contract

(GS11P97ADQ0009 - Section B)

SECTION B - SUPPLIES OR SERVICES AND PRICES/COSTS

1. General.

The Construction Manager (CM) shall provide all management, supervision, labor, materials, supplies, and equipment (except as otherwise provided), and shall plan, schedule, coordinate and assure effective performance of all services described herein.

The CM must have office space available within the GSA National Capital Region, and be able to respond to Government contacts/ communications within 24 hours (one work day) during the day-to-day performance of this contract.

2. Contract Executive.

The CM shall identify a Contract Executive responsible for the execution of each Work Order, negotiating Work Order modifications for unforeseen requirements, coordinating the efforts of Work Order teams, and acting as the principal point of contact between the CM, Contracting Officer, and the Contracting Officer's Authorized Representative (COR).

3. Travel.

Travel shall not be reimbursed except as provided in the following paragraphs:

- a. Projects requiring the services of the CM will be, or are expected to be, within the geographic boundaries of the GSA National Capital Region(NCR). The NCR includes the District of Columbia; Montgomery and Prince Georges Counties in Maryland; the cities of Alexandria, Falls Church and Fairfax in Virginia, and the counties of Arlington, Fairfax, Prince William and Loudoun in Virginia. There will be no reimbursement for travel within the GSA-NCR or between the GSA-NCR and Baltimore, Maryland.**
- b. Any travel to be allowed must be authorized by the COR in advance. The allowable travel reimbursement per visit to sites in cities or locations outside of the GSA-NCR shall be fixed in negotiations by the COR and the CM. In negotiating the fixed price for such travel, the allowable per diem cost shall not exceed the rates set forth in Federal Travel Regulations in effect at the time the work order is negotiated. In addition, all travel by privately owned vehicle outside of the GSA-NCR will be reimbursed based on Federal Travel Regulations mileage rates.**
- c. No travel reimbursement will be authorized by the COR unless the CM provides sufficient written evidence of costs incurred, including receipts, registers, or other information as may be required by the COR.**

4. Labor Categories and Rates.

Enter one multiplier factor and the extended contract man-hour rates to be used for each of the respective performance periods. The GSA estimated man-hour rates will be factored by the multiplier percentages to arrive at the extended contract man-hour rates.

5. Hourly Labor Rates.

* { The extended contract man-hour rates listed by the CM must be the rates that will be used as the basis for pricing work under this contract. Each option period will be separately priced. In arriving at the extended contract man-hour rates, the Contractor should include anticipated allowable overhead costs to include home office support, profit, and all direct labor costs associated with this contract. Extended contract man-hour rates must be quoted for all disciplines/work categories.

6. Firm Fixed Price.

The firm fixed price for Work Orders will be based on the fixed extended contract man-hour rates, the negotiated level of effort for each category, deliverables, and authorized travel.

7. Submittals.

Design review documents, plans, specifications, drawings and other materials should be forwarded to the CM by the architect-engineer(s) via overnight carrier/messenger(s) for reviews. The CM must transmit these documents to the Government and other affected contractors by the same means. This cost element must be factored into the fixed contract multiplier factors/extended man-hour rates.

8. Guaranteed Minimum. See Section-F.

9. Contract Effective Period(s). See Section-F.

10. Miscellaneous Items.

Do not show separate price breakouts for the Miscellaneous Items described in paragraph C.2(o) of Section C. This term refers to work which may be required in support of the projects. Advance approval by GSA is required. Such work may be required by the Government as contract modifications under the "Changes" Clause.

11. Additional Instructions.

a. Offerors are cautioned that any offer may be rejected as nonresponsive if it is materially unbalanced as to prices for the initial and the optional contract periods. An offer is unbalanced when it is based on prices which are significantly understated for some work and prices which are significantly overstated for other work.

→ b. Neither the CM Contractor nor its employees will be required to prepare, sign or seal any maps or specifications as part of the contract scope of work.

c. Offerors must propose prices for all disciplines/labor categories in order to be considered for award. Offerors may not use pricing

alternatives which differ from these instructions.

- d. Offerors must propose one multiplier (mark-up factor) for uniform application to all of the GSA estimated man-hour rates within each contract effective period, and enter the resulting extended contract man-hour rates for each discipline/labor category. Do not exceed two decimal places for the multiplier factors. Multipliers may not vary among the projects listed at the front of Section-C. Do not enter rounded dollar figures in the Extended Contract Man-Hour Rates column.
- e. The Contractor is required to provide its own ADP hardware/computer equipment and software adequate to fully satisfy all operational requirements of this contract and task orders requiring field office operation requirements. This should be considered in developing the price proposal as no reimbursement is authorized for such items after award of the contract. This contract requires computerized capabilities of the Contractor.

12. Work Orders.

Individual Work Orders will be issued as requirements occur. These orders will specify work to be performed and will reflect the extended contract man-hour rates in the basic contract. The terms and conditions set forth in the basic contract will always apply. Each order will have its own price and performance period which may extend past the expiration date of the current basic contract effective period; however, a completion date must be established at the original execution of each Work Order. Outstanding Work Orders shall be performed at the rates/pricing which correlate to the applicable basic contract period(s) in effect for their duration. Modifications to Work Orders are controlled by the Changes Clause as to work requirements and equitable pricing adjustments. The total amount of all work required may not exceed the maximum contract price for the respective base or option period in which it is ordered. After the contract base or option period expires, the amount of work included in any outstanding Work Order shall not be modified to enlarge its scope, unless such modification is necessary to accomplish the tasks under the Work Order. The basic contract may not be modified to enlarge its scope after the expiration date of its last effective period, inclusive of options, except that the expiration date may be extended for an aggregate total of six months.

13. Example of How Offers Will be Used to Calculate Prices:

Offerors should write (type) out the multiplier in numeric form as shown in the example given below. The bid represents the multiplier times the established GSA estimated man-hour rates on pages 6 through 15.

EXAMPLE: XYZ Company is bidding 5% greater than the GSA rates for the initial 12- month period. XYZ's bid for the principal would be as follows:

MULTIPLIER FACTOR: 1.05

A offer of 1.05 equals 105% of the established unit prices. The resultant unit price for principal would be \$94.50 (\$90.00 x 105%)

XYZ Company is bidding 5% less than the GSA rates for the initial 12-month period. XYZ's bid for the principal would be as follows:

MULTIPLIER FACTOR: 0.95

An offer of 0.95 equals 95% of the established unit prices. The resultant unit price for principal in group I would be \$85.50 (\$90.00 x 95%).

14. Bid/Offer for Basic Services

a. BID/OFFER FOR THE 12 MONTH BASE PERIOD State a mutiplier, for providing construction management services for the 12 month base period.	MULTIPLIER FACTO
• BID/OFFER FOR THE OPTION PERIOD I State a multiplier, for providing construction management services for the Option Period I.	
• BID/OFFER FOR THE OPTION PERIOD II State a multiplier, for providing construction management services for the Option Period II	

NOTES:

u Man-Day Rates = Extended Contract Man-hour Rates multiplied by 8.

u Basis used for man-hour rates is 2016 per annum.

u Data development and preparation requirements will be priced using the following scheduled rates.

u If required, testimony participation will be priced using the following schedule

to the extent practicable.

u YOU MUST QUOTE A PRICE FOR THE INITIAL 12 MONTH PERIOD AS WELL AS FOR THE OPTION PERIODS IN ORDER TO BE CONSIDERED FOR AWARD.

u (3) PRICING OF OPTIONS:

Offerors shall price the option requirements for the two (2) additional 12 month periods by assuming that the minimum hourly wages and fringe benefits established by the Administrator, Wage and Hour Division, U.S. Department of labor, for the initial 12 month period of performance will apply to the two(2) additional optional 12 month periods. The minimum wage rates and fringe benefits applicable to the initial 12 month period of performance are outlined on Wage Determination No. 94-2104 (Rev. 7) dated November 11, 1996.

In the event the option(s) is exercised by the Government, the contract price(s) will be adjusted upward or downward at the time the option is exercised in accordance with FAR 52.222-43.

Offerors are cautioned that any bid/offer may be rejected as non-responsive if it is materially unbalanced as to prices for the options and the initial contract period. A bid/offer is unbalanced when it is based on prices which are significantly less than cost for some work and prices which are significantly overstated for other work.

Contract Year 1	MULTIPLIER FACTOR:	
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LABOR CATEGORY	GSA ESTIMATED MAN-HOUR RATES		EXTENDED MAN-HOUR RATES
Principal	\$100		
Construction Executive	\$ 85		
Quality Control Superintendent	\$ 73		
Project Architect-Manager	\$ 80		
Project Engineer-Manager	\$ 80		
Planner/Scheduler	\$ 75		
Project Claims Analyst	\$ 35		
Architect-Sr	\$ 55		
Architect - Jr.	\$ 37		
Mechanical Engineer - Sr.	\$ 65		
Electrical Engineer - Sr	\$ 65		
Structural Engineer - Sr.	\$ 65		
Civil Engineer - Sr.	\$ 65		
Testing Engineer - Sr.	\$ 53		
Engineers (any) - Jr.	\$ 42		
Specifications Writer	\$ 55		
Geotechnical Engr.	\$ 50		
Fire Protection Engineer-Sr.	\$ 65		
Cost Estimator	\$ 54		
Architectural Inspector	\$ 55		
Mechanical Inspector	\$ 55		
Electrical Inspector	\$ 55		
Structural Inspector	\$ 55		
Roofing Inspector	\$ 55		
Safety/OSHA Inspector	\$ 52		
Concrete/Masonry Inspector	\$ 42		
Geotechnical Inspector	\$ 42		
General Inspector - Jr.	\$ 40		
Testing Technician	\$ 44		
Administrative Assistant	\$ 40		
Secretary III	\$ 29		
Word Processor II	\$ 24		

Contract Year 2	MULTIPLIER FACTOR:	
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LABOR CATEGORY	GSA ESTIMATED MAN-HOUR RATES		EXTENDED MAN-HOUR RATES
Principal	\$100		
Construction Executive	\$ 85		
Quality Control Superintendent	\$ 73		
Project Architect-Manager	\$ 80		
Project Engineer-Manager	\$ 80		
Planner/Scheduler	\$ 75		
Project Claims Analyst	\$ 35		
Architect-Sr	\$ 55		
Architect - Jr.	\$ 37		
Mechanical Engineer - Sr.	\$ 65		
Electrical Engineer - Sr	\$ 65		
Structural Engineer - Sr.	\$ 65		
Civil Engineer - Sr.	\$ 65		
Testing Engineer - Sr.	\$ 53		
Engineers (any) - Jr.	\$ 42		
Specifications Writer	\$ 55		
Geotechnical Engr.	\$ 50		
Fire Protection Engineer-Sr.	\$ 65		
Cost Estimator	\$ 54		
Architectural Inspector	\$ 55		
Mechanical Inspector	\$ 55		
Electrical Inspector	\$ 55		
Structural Inspector	\$ 55		
Roofing Inspector	\$ 55		
Safety/OSHA Inspector	\$ 52		
Concrete/Masonry Inspector	\$ 42		
Geotechnical Inspector	\$ 42		
General Inspector - Jr.	\$ 40		
Testing Technician	\$ 44		
Administrative Assistant	\$ 40		
Secretary III	\$ 29		
Word Processor II	\$ 24		

Contract Year 3	MULTIPLIER FACTOR:	
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LABOR CATEGORY	GSA ESTIMATED MAN-HOUR RATES		EXTENDED MAN-HOUR RATES
Principal	\$100		
Construction Executive	\$ 85		
Quality Control Superintendent	\$ 73		
Project Architect-Manager	\$ 80		
Project Engineer-Manager	\$ 80		
Planner/Scheduler	\$ 75		
Project Claims Analyst	\$ 35		
Architect-Sr	\$ 55		
Architect - Jr.	\$ 37		
Mechanical Engineer - Sr.	\$ 65		
Electrical Engineer - Sr	\$ 65		
Structural Engineer - Sr.	\$ 65		
Civil Engineer - Sr.	\$ 65		
Testing Engineer - Sr.	\$ 53		
Engineers (any) - Jr.	\$ 42		
Specifications Writer	\$ 55		
Geotechnical Engr.	\$ 50		
Fire Protection Engineer-Sr.	\$ 65		
Cost Estimator	\$ 54		
Architectural Inspector	\$ 55		
Mechanical Inspector	\$ 55		
Electrical Inspector	\$ 55		
Structural Inspector	\$ 55		
Roofing Inspector	\$ 55		
Safety/OSHA Inspector	\$ 52		
Concrete/Masonry Inspector	\$ 42		
Geotechnical Inspector	\$ 42		
General Inspector - Jr.	\$ 40		
Testing Technician	\$ 44		
Administrative Assistant	\$ 40		
Secretary III	\$ 29		
Word Processor II	\$ 24		

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